CLAIMS:

1. Driving system (1) for a separator having a centrifugal drum with a vertical axis of rotation,

a) which has a vertically aligned driving spindle (2) for a centrifugal drum, which is not shown here and which is placed onto the driving spindle (2),

b) the driving spindle (2) being disposed by means of an upper neck bearing (3) and a lower footstep bearing (4) particularly in an opening (14) of a drive housing (5),

c) and the neck bearing being supported in axially rigid and radially resilient manner on the machine housing (5),

characterized in that

d) the neck bearing (3) is constructed as an angular ball bearing,

e) the neck bearing (3) supports the centrifugal drum in the downward direction on a spherical-surface-shaped supporting surface of the machine housing (2).

2. Driving system according to Claim 1,

characterized in that the neck bearing (3) is supported on the inside in the upward direction on the driving spindle (2) and in the downward direction toward the outside on an outer neck bearing ring (8).

3. Driving system according to one of the preceding claims,

characterized in that the neck bearing ring (8) has a ball-socket-type construction on its underside (12) and rests on a complementarily spherical-section-type-shaped bearing collar (13) of the drive housing (5) and in this manner the spherical-surface-shaped supporting surface.

4. Driving system according to one of the preceding claims,

characterized in that the center point of the spherical-surface-shaped supporting surface is situated in the area of the footstep bearing (4), particularly in its center.

5. Driving system according to one of the preceding claims,

characterized in that the spherical-surface-shaped supporting surface is utilized for the weight-dependent frictional damping of the driving system.

6. Driving system according to one of the preceding claims, characterized in that the spherical-surface-shaped supporting surface is utilized for the weight-dependent frictional damping of the driving system.

7. Driving system according to one of the preceding claims, characterized in that a gap (9) is constructed between the outer circumference of the neck bearing ring (8) and the inner circumference of the drive housing (5).

8. Driving system according to one of the preceding claims, characterized in that a sealing and spring ring (10) bridges the gap (9).

9. Driving system according to one of the preceding claims, characterized in that the sealing and spring ring (10) is constructed as an O-ring which is preferably arranged in a groove (11) on the outer circumference of the neck bearing ring (8), from which is projects radially to the outside.

10. Driving system according to one of the preceding claims, characterized in that the footstep bearing (4) is radially fixed in the drive housing (5) and is axially constructed as a movable bearing.

11. Driving system according to one of the preceding claims, characterized in that the supporting surface of the neck bearing ring on the drive housing (5) is in an operative connection with a lubricating system for lubricating the neck bearing (3, 4).

12. Driving system according to one of the preceding claims, characterized in that the neck bearing (3) and the foot bearing (4) are mutually connected by a duct (16), particularly a ring duct around the driving spindle, so that the two bearings (3, 4) can be jointly lubricated.

13. Driving system according to one of the preceding claims, characterized in that a lubricating bore for a lubricant, such as oil or grease, leads into the area around the driving spindle (2) above the neck bearing (3).

14. Driving system according to one of the preceding claims, characterized in that a second lubricating bore (17) is provided for the footstep bearing (4).